indicates the existence of a corresponding component band, an X position of the said local minimum is a first approximation of band center position Act of the said component band, setting several points on the said two-dimensional derivative plot in the vicinity of P_d, point of intersection of the said two-dimensional derivative plot with the X-axis, as candidates for the inflation point of the said component band, estimating the bandwidth of the said component band from the candidate of the said inflection point by the following Equation (1), estimating the peak height of the said component band from the distances between the said local minimum and the point(s) of intersection of vertical line passing through the said local minimum and the horizontal line(s) passing through the said candidate points, obtaining the candidates for band parameter values of the said component band, and further obtaining the constraint conditions subjected to the band parameter values for the said component band from the said two-dimensional derivative plot, the relation between the bandwidth b_w and the X-position of the inflection point X_p of a single band can be preferably expressed by

$$b_W = (1/K_P)\ |A_{CT} - X_P|$$

(In equation, b_W is an estimated value of the bandwidth of a Gaussian or a Lorentzian band, where the coefficient K_P is 0.42466 for Gaussian and 0.288675 for Lorentzian.)

5. (amended) A method of spectrum analysis in two-dimensional representation as set forth in claim 2, wherein in the two-dimensional derivative plot where pairs of the third and fourth derivatives are represented in X-Y coordinate system, when a typical local maximum indicates the existence of a corresponding component band, an X position of the said local maximum is a first approximation of band center position Act of the said component band, setting several points on the said two-dimensional derivative plot in the vicinity of Q_d, point of

intersection of the said two-dimensional derivative plot with the X-axis, as candidates for the secondary inflection point of the said component band, estimating the bandwidth of the said component band from the candidate of the said secondary inflection point by the following Equation (2), estimating the peak height of the said component band from the distances between the said local maximum and the point(s) of intersection of vertical line passing through the said local maximum and the horizontal line(s) passing through the said candidate points, obtaining the candidates for band parameter values of the said component band from the said two-dimensional derivative plot, the relation between the bandwidth b_W and the X-position of the secondary inflection point X_Q of a single band can be preferably expressed by

A1 cont'd

$$b_W = (1/K_P)\ |A_{CT} - X_Q|$$

(In the equation, b_W is an estimated value of the bandwidth of a Gaussian or a Lorentzian band, where the coefficient K_Q is 0.31508 for Gaussian and 0.16426 for Lorentzian.)

6. (amended) A method of spectrum analysis in two-dimensional representation as set forth in claim 1, wherein the already estimated band parameter values are so adjusted that the already estimated specific component band and the complementary estimation component band with all the estimated component band removed except the said estimated specific component band from a spectral profile or two-dimensional derivative plot of the analyzed object coincide with each other.

7. (amended) A method of spectrum analysis in two-dimensional representation as set forth in claim 1, wherein spectral data are infrared spectra, visible light spectra, ultraviolet spectra, Raman spectra, X-ray diffractograms, chromatograms, etc.